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10/501,399

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Koji Okomori

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EXAMINER

BAREFORD, KATHERINE A

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,399	<b>Applicant(s)</b> OKOMORI ET AL.	
	<b>Examiner</b> Katherine A. Bareford	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,5-7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,5-7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. The amendment of November 21, 2007 has been received and entered. With the entry of the amendment, claims 1, 3-4, 8 and 13-18 are canceled, and claims 2, 5-7 and 9-12 are pending for examination.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2, 5-7 and 9-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 2 and 5 have been amended to provide that the “coating color is applied by a gate roll coater” (amendment of April 13, 2007). More details of the gate roll coater are added in the amendment of November 21, 2007. However, the only reference to a “gate roll coater” in the disclosure as originally filed is in reference to providing base papers precoated with materials by gate roll coaters, among other coating methods, to be used in the present invention (page 12, lines 12-16 of the specification). However, this reference does indicate that applicant was aware of gate

Art Unit: 1792

roll coaters and could have claimed them or used the terminology of "gate roll coater" as to the present invention if it had been desired. Applicant further argues at the REMARKS section of the November 21, 2007 amendment that the described use in the specification of an applicator roll, an inner roll and an outer roll is a gate roll coater as known in the art, citing pages 192 and 193 of a Japan Technical Association document as to this effect. The Examiner has reviewed this material, however, it does not provide evidence that the described roller system in the specification must be a gate roll coater. The Figure 4.31 KCM roller, for example, has a three roll system with an inner roll, outer roll and applicator roll (on each side of the paper). Thus, this transfer roll set up reads on the transfer roll described in the specification. While a gate roll coater as shown in figure 4.34 can be a three roll system, there is no indication that that is the only type of multi (or three) roll coater system usable to print paper, as again shown by the figure 4.31 system. The Examiner also notes the previously cited Massey patent (US 2185859) also has a three roll system. Arguments about the relative size and speed of the rollers are not supported by what is described in the specification with regard to the use of transfer rollers (page 4, page 13 of the specification). Therefore, there is no support in the disclosure as originally filed for using a specific "gate roll coater" and there is further no requirement that a system with an applicator, inner and outer roll is necessarily a "gate roll coater". As a result, the specific claiming of a "gate roll coater" is new matter.

The other dependent claims do not cure the defects of the claims from which they depend.

### *Claim Objections*

4. The objections to claims 15 and 17 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim is withdrawn due to applicant's cancellation of the claims of November 21, 2007.

5. The objection to claim 18 because informalities is withdrawn due to the cancellation of claim 18 in the amendment of November 21, 2007.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 5-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wurster et al (US 6197155) in view of Hayasaka et al (US 5972167) and Japan 11-050392 (hereinafter '392).

Claim 2: Wurster teaches a method for producing coated paper for printing.

Column 1, lines 3-5. A coating color containing a pigment and an adhesive (binder) is applied to a base paper. Column 2, lines 50-65 and column 3, lines 5-15. The coating color contains, for example, 1 wt % polyvinyl alcohol (PVA) in relation to coating pigment (1 part by weight PVA to 100 parts by weight of the pigment). Column 2, lines 60-65 and column 6, lines 43-45 (the range of 1-4%, column 2, lines 60-65, for example, overlaps with the claimed 0.1 to 1.0 range, and In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)). The coating color application method can be roll coating methods such as the Massey coater (which is inherently a transfer roll coater method) or a metering size press. Column 4, lines 20-30. Moreover, Wurster teaches that the resulting paper is essentially independent of the type of coat application process. Column 4, lines 25-35. The coating weight can be 7 g/m<sup>2</sup>. Column 4, lines 40-45. The coated paper can be used for offset printing. Column 1, lines 3-5.

Claim 5: Wurster teaches a process as described in claim 2. The coated paper is for offset printing. Column 1, lines 3-5. The polyvinyl alcohol can be in addition to other adhesive, and thus serves as an auxiliary to the extent claimed. Column 2, lines 55-68 and column 3, lines 20-40. The amount of starch present can be 0 percent, thus providing less than 2.0 parts by weight of starch as an adhesive. Column 3, lines 30-40. The coating color application method can be roll coating methods such as the Massey

coater (which is inherently a transfer roll coater method) or a metering size press.

Column 4, lines 20-30. Moreover, Wurster teaches that the resulting paper is essentially independent of the type of coat application process. Column 4, lines 25-35.

Claim 6: the coating color can be 18 weight percent adhesive (binder) in relation to coating pigment (18 parts by weight of adhesive based on 100 parts by weight of the pigment) or less. Column 3, lines 10-25.

Claim 7: the coating color can be 20 g/ m<sup>2</sup> total weight, on both sides, with the coating mass spread roughly uniformly on both coat applications, thus providing roughly 10 g/ m<sup>2</sup> on each side of the base paper, which is more than 7 g/ m<sup>2</sup> on each side. Column 4, lines 45-55.

Claim 9: a coated paper for printing is produced by the method according to claim 5. Column 1, lines 3-5.

Claims 10 and 11: the coating color can be 18 weight percent adhesive (binder) in relation to coating pigment (18 parts by weight of adhesive based on 100 parts by weight of the pigment). Column 3, lines 10-25.

Claim 12: the coating color can be 65 weight percent solids, for example. Column 4, lines 20-25.

Wurster teaches all the features these claims except that a "gate roll coater" system is used (with application, inner and outer rolls), the coating speed of 1100 m/min or more, and that the peripheral speed of the inner and outer roll to the applicator roll is 50-95%.

However, Hayasaka teaches that it is well known to use transfer roll coating processes to apply coating color (of pigment and adhesive) to a paper substrate to provide desirable paper for printing. Column 6, lines 5-30, column 7, lines 10-15 and column 3, lines 30-35. Hayasaka teaches that desirable transfer roll coating processes include metering size press coaters and gate roll coaters. Column 6, lines 30-35. The gate roll coaters are described as using two gate rolls (which would provide an inner and an outer roll) to supply coating color to the applicator roll. Column 6, lines 30-45. Hayasaka further teaches that the relative speed of the rolls in the gate roll coater system are controlled to provide desirable metering and application of coating. Column 6, lines 30-60. The gate roll coater system can be used to apply coating weight of 5-15 g/m<sup>2</sup> per side. Column 6, lines 45-65. Hayasaka further teaches to use coating speeds of about 600 to about 1500 m/min, preferably between about 1000 and about 1500 m/min. Column 7, lines 1-5.

However, '392 teaches that when making coated paper for offset printing by coating with pigment and adhesive, it is desirable to use a gate roll coater with an applicator roll, an inner roll and an outer roll. See the abstract. Furthermore, it is desirable for the inner and outer roll speed to be 50-80% of the applicator roll. See the abstract. The adhesive can include polyvinyl alcohol. Paragraph [0017]. The coating speed can be 1200 m/min. Paragraph [0026].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wurster to use a gate roll applicator system and coating



Art Unit: 1792

speed of 1100 m/min or more as suggested by Hayasaka with an expectation of providing a desirable and speedy transfer roll coating system because Wurster teaches that roller application systems can be used (not limited to Massey coaters) and that metering size press systems can be used to apply a coating system of pigments and adhesive to a paper surface and Hayasaka teaches that a desirable roll coating system for applying a coating system of pigments and adhesive to a paper surface includes gate roll coaters and metering size presses and that such a gate roll coater would use an inner, outer and application roll and that desirable coating speeds for such systems would be about 1000 to about 1500 m/min, and as to the specific speed of greater than 1100 m/min, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). It would further have been obvious to modify Wurster in view of Hayasaka provide that the peripheral speed of the inner and outer roll to the applicator roll can desirably be 50-80% of the applicator roll as suggested by '392 with an expectation of providing a desirable and speedy transfer roll coating system because Wurster in view of Hayasaka suggests gate roll coating of paper with pigment and adhesive for offset printing with Hayasaka teaching that the relative speed of the rolls in the gate roll coater system are controlled to provide desirable metering an application of printing and '392 teaching gate roll coating of paper with pigment and adhesive for offset coating and that it is desirable for the inner and outer roll speed to be 50-80% of the applicator roll.

8. Claims 2, 5-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wurster et al (US 6197155) in view of Japan 11-050392 (hereinafter '392).

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Claim 5: Wurster teaches a process as described in claim 2. The coated paper is for offset printing. Column 1, lines 3-5. The polyvinyl alcohol can be in addition to other adhesive, and thus serves as an auxiliary to the extent claimed. Column 2, lines

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Claim 7: the coating color can be 20 g/ m<sup>2</sup> total weight, on both sides, with the coating mass spread roughly uniformly on both coat applications, thus providing roughly 10 g/ m<sup>2</sup> on each side of the base paper, which is more than 7 g/ m<sup>2</sup> on each side. Column 4, lines 45-55.

Claim 9: a coated paper for printing is produced by the method according to claim 5. Column 1, lines 3-5.

Claims 10 and 11: the coating color can be 18 weight percent adhesive (binder) in relation to coating pigment (18 parts by weight of adhesive based on 100 parts by weight of the pigment). Column 3, lines 10-25.

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Wurster teaches all the features these claims except that a “gate roll coater” system is used (with application, inner and outer rolls), the coating speed of 1100 m/min or more and the peripheral speed of the inner/outer roll to the applicator roll.

However, '392 teaches that when making coated paper for offset printing by coating with pigment and adhesive, it is desirable to use a gate roll coater with an applicator roll, an inner roll and an outer roll. See the abstract. Furthermore, it is desirable for the inner and outer roll speed to be 50-80% of the applicator roll. See the abstract. The adhesive can include polyvinyl alcohol. Paragraph [0017]. The coating speed can be 1200 m/min. Paragraph [0026].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wurster to use a gate roll applicator system and coating speed of 1200 m/min, for example, as suggested by '392 with an expectation of providing a desirable and speedy transfer roll coating system because Wurster teaches that roller application systems can be used (not limited to Massey coaters) to apply a coating system of pigments and adhesive to a paper surface and '392 teaches that a desirable roll coating system for applying a coating system of pigments and adhesive to a paper surface includes gate roll coaters and that such a gate roll coater would use an inner, outer and application roll and that desirable coating speeds for such systems would be 1200 m/min. Furthermore, it would have been desirable to use such a system with a peripheral speed ratio of the inner/outer roll to the applicator roll of 50-80% as suggested by '392 as a desirable speed ratio when using such a gate roll system.

9. Yasuda et al (US 4301210) also notes the conventional use of gate roll coaters, size press and other coaters to coat pigment/adhesive coatings on paper. See column 2, lines 50-60.

### *Response to Arguments*

10. Applicant's arguments filed November 21, 2007 have been fully considered but they are not persuasive.

Applicant argues that they have developed a specific method of obtaining coatings at high coating weight while also maintaining high speeds, without significant misting or boiling, by using coating color containing 0.1 to 1.0 parts by weight polyvinyl alcohol based on 100 parts by weight of pigment, at a coating weight of 7 g/m<sup>2</sup> or more using a gate roll coater with transfer roll, inner roll, and outer roll and where the peripheral speed of the inner and outer roller to the applicator roller is 50 to 95%, which gives a resulting coated paper with excellent web offset printability, blister resistance and gravure aptitude. Applicant argues that Wurster provides no suggestion of a gate roll coater or transfer roll coater as claimed or the provision of a paper suitable for web offset printing, or gravure printing as in the present invention, and that Wurster fails to disclose the claimed amounts of pigment and starch, with the Examples disclosing 2 wt% polyvinyl alcohol. As to the use of Hayasaka, applicant argues that it does not provide the motivation or suggestion to use a gate roll coater at the claimed coating

speed and peripheral speed ratio, as it relies on the specific solid concentration, density of the coating color and low viscosity starch adhesive to enable the coating speeds and does not provide the benefits of applicant by incorporating 0.1 to 1 wt% polyvinyl alcohol and the claimed coating speed at the claimed weight. As to the use of '392, applicant argues that it discloses an offset printing coated paper different from the recording paper for newspaper cold set inks of Wurster, and thus the methods are sufficiently different, that the teachings of the two references would not be combined. Even if combined, according to applicant, the combination would not suggest the benefits of applicant by incorporating 0.1 to 1 wt% polyvinyl alcohol and the claimed coating speed.

The Examiner has reviewed applicant's arguments, however, the rejection is maintained. As to the exact combination of ranges of materials used by applicant in combination with the use of the gate roll coating and speed, applicant has made no showing of unexpected benefits as to printability, blister resistance and gravure aptitude or other coating features in general, commensurate scope with the invention as claimed since, for example, none of the examples in the specification are indicated as being performed with a gate roll coater, nor are examples shown as to the precise claimed range of polyvinyl alcohol. As discussed in MPEP 716.02(d), a showing of unexpected results must be commensurate in scope with the claims in order to rebut a prima facie case of obviousness. As to the polyvinyl alcohol amounts and coating weight, Wurster clearly provides amounts that overlap with what is claimed, and as discussed in the

rejection above, In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In *re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)); which prima facie case obviousness has not been overcome by applicant's examples, as a showing of unexpected benefits commensurate in scope with the invention as claimed as not been made, as previously discussed.

While an example may provide 2 wt% polyvinyl alcohol, the specification of Wurster provides the use of 1-4 wt%, for example (see column 2, lines 60-65) and even 0-5 wt% (see column 3, lines 35-40), which overlaps with the amount claimed, and as discussed in MPEP 2123, “Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In *re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971).” As to the use of the gate roll coater and claimed speeds, the Examiner has provided Hayasaka (in the first rejection), as to the desirable use of these speeds. While Hayasaka is directed to coating a specific material, it also teaches desirable roll coating processes used in coating color of pigment and adhesive to a paper substrate of materials overlapping in coating weight. Since Wurster teaches using roll coating processes in general (column 4, line 25) (while Wurster describes the use of a Massey roll coater, it is not limited to such roll coating methods (“ . . . roller application devices such as the Massey coater. . . ” –column 4, lines 25-26, emphasis added)), one of ordinary skill in the art would clearly look to the art of coating materials with pigment and adhesive by roll coating to determine desirable roll coating processes and speeds to use. Therefore, Hayasaka is clearly an analogous and relevant

piece of art to use. As to the use of '392, Wurster is not limited to coating newspaper, but rather teaches paper for offset printing with many possible substrates (column 1, lines 4-5 and column 4, line 64 through column 5, line 25). Since Wurster teaches using roll coating processes in general (column 4, line 25), one of ordinary skill in the art would clearly look to the art of coating materials with pigment and adhesive by roll coating to determine desirable roll coating processes and speeds to use. Therefore, since '392 is also directed to making coated paper for offset printing, with coating with pigment and adhesive, and teaches a desirable roll coating method, '392 is clearly an analogous and relevant piece of art to use.

### *Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date



of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Katherine A. Bareford/  
Primary Examiner, Art Unit 1792

Application/Control Number: 10/501,399  
Art Unit: 1792

Page 17